2006 RESEARCH PROBLEM STATEMENT

Problem Title: Asset Improvement Tracking – (construction history)

No.: 06.03-02
(also see 06.05-05)

Submitted By: Gary Kuhl & Bill Lawrence

E-mail: Gkuhl@utah.gov
Blawrence@utah.gov

1. Briefly describe the problem to be addressed:

UDOT does not have a defined process to capture information about the changes we make to our roadways. Many database systems need to be continuously updated to reflect changes made each year.

A simple form needs to be created that can be completed by anybody doing something to the system that will capture what was done, where it was done, when it was done & how much it cost.

A more involved process needs to be developed to take this information and make it available to those database managers to update their data.

This would initially capture the data needed to update the Reference System, Plan for Every Section and Pavement Management databases, as well as the HPMS database. Changes such as adding a lane, changing the median width, placing a chip seal or overlay, and many others could all be recorded and made available from one location.

2. List the research objective(s) to be accomplished:

1. Formalize a procedure to regularly obtain the as constructed information or changes that occur to the roadway.
2. Identify what information should be recorded.
3. Develop or use a current system to enter and store this data.
4. Create reporting methods that will make this information available for use in a convenient way.
5. Identify information that is already being gathered and stored from existing databases, such as ePM, MMQA and PDBS, etc.

3. List the major tasks required to accomplish the research objective(s): Estimated person-hours

1. Identify what information is needed to update the various databases.
   a. Question the functional managers for needs
2. Create a form to record these changes.
3. Identify who should enter this information.
4. Create a procedure to follow for data entry.
5. Correlate with “Data Warehouse” project to identify system to manage and report this information.
   a. Hire a consultant capable of creating the needed programming to tie in.
6. Test the system.
7. Train the users on how to access the system to enter and retrieve information.

4. Outline the proposed schedule (when do you need this done, and how we will get there):

One year project, should be completed by July 1, 2007

5. Indicate type of research and / or development project this is:

X ‘Tweener Research Project

6. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

In house staff with software consultant.

7. What deliverable(s) would you like to receive at the end of the project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)

1. Project schematic describing overall concept
2. A software application to enter, manage & report the information.
3. User documentation/manual & training program.
4. A report describing the project.
5. Department Procedure defining the process.

8. Describe how will this project be implemented at UDOT.

1. A procedure will be followed to enter changes through a web-based form.
2. As needed reports will provide database managers with updated changes to keep various databases up to date.
3. System enhancements could automate the database updates.
4. System managed by Asset Management Division.

9. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.

System changes will be recorded timely and accurately creating a history of what we did. Annual tracking can be automated. Will improve our ability to make timely decisions based on performance measures, leading to better performance and economic benefit.

10. Describe the expected risks, obstacles, and strategies to overcome these.

There needs to be consistency in data entry, both in actually doing it & in what gets recorded. Will be a challenge with the Department's schizophrenia related to computer systems.

11. List the key UDOT Champion of this project (UDOT employee who will help Research Division steer and lead this project, and will spearhead the implementation of the results):

Kim Schvanevelt, Pavement management & Planning Statistics

12. Estimate the cost of this research study including implementation effort (use person-hours from No. 3): $10,000

13. List other champions (UDOT and non-UDOT) who are interested in and willing to participate in the Technical Advisory Committee for this study:

Name	Organization/Division/Region	Phone
A) Kim Schvanevelt	Systems Planning and Programming	965-4000
B) Gary Kuhl	Systems Planning and Programming	965-4000
C) Lloyd Neeley	Maintenance/Operations	965-4000
D) Bill Lawrence	Systems Planning and Programming	965-4000
E) Dave Eixenberger	Project Development	965-4000
F) Tom Leholm	Project Development	965-4346
G) Dave Blake	Region Two Materials	975-4843

14. Identify other Utah agencies, regional or national agencies, or other groups that may have an interest in supporting this study:

Other DOTs interested in managing their Assets.